Appendix C
Glossary

ACCRETION. Natural or artificial buildup of land by the deposition of geologic material.

ALONGSHORE. In the shore parallel direction.

BACKRUSH. The seaward return of water following the uprush of waves.

BACKSHORE. The zone of the shore lying between the foreshore and coastline comprising the berm or berms acted upon by waves only during severe storms.

BACKWASH. Water or waves thrown back by an obstruction such as a ship, breakwater, or cliff.

BAR. A submerged or emerged embankment of sand, gravel, or other unconsolidated material built on the seafloor by waves and currents.

BATHYMETRY. The measurement of water depth in oceans, seas, and lakes.

BAYMOUTH BAR. A bar extending partially or entirely across the mouth of the bay.

BEACH. A zone of unconsolidated material that extends landward from the low water line to the place where there is a marked change in the material or physiographic form or to the line of permanent vegetation.

BEACH FACE. The section of the beach normally exposed to the action of the wave uprush.

BEACH FILL. Material placed on a beach to renourish eroding shores.

BEACH PROFILE. The intersection of the ground surface with a vertical plane.

BEACH RIDGE. A nearly continuous mound of beach material that has been shaved by wave or other action.

BEACH WIDTH. The horizontal dimension of the beach measured normal to the shoreline.

BED FORMS. Any deviation from a flat bed that is readily detectable by eye and higher than the largest sediment size present in the parent bed material.

BED LOAD. That fraction of the total sediment transport load that moves by rolling, sliding, or bouncing on the bed.

BENCH. A level or gently sloping erosion plane inclined seaward on a beach or structure.

BENCHMARK. A permanently fixed point of known elevation.

BERM. A nearly horizontal part of the beach or backshore formed by the deposit of materials by wave action. Some beaches have no berms, others have one or more.

BERM CREST. The seaward limit of a berm.

BREAKER. A wave which is breaking. Breakers are commonly classified into four types.

SPILLING - Bubbles and turbulent water spill down the face of the wave. The upper 25% of the front face may become vertical before breaking. Breaking generally occurs over a distance.

PLUNGING - Crest curls over air pocket; breaking is usually with a crash. Smooth splash often follows.

COLLAPSING - Breaking occurs over lower half of wave with minimal air pocket and usually no splash-up. Bubbles and foam present.

SURGING - Wave peaks up, but bottom rushes forward from under wave and wave slides up on beach face with little or no bubble formation. Water surface remains almost plane except where ripples may be produced on the beach face during runback.

BREAKER DEPTH. The water depth at the point where the wave breaks. Also called breaking depth.

BREAKWATER. A structure protecting a shore area, harbor, anchorage, or basin from waves.

BYPASSING. Hydraulic or mechanical movement of sand from the accreting updrift side to the eroding downdrift side of an inlet or harbor entrance. The hydraulic movement may be natural or mechanical.

CANYON. A relatively narrow, deep depression with steep slopes, the bottom which grades continuously downward. May be underwater (submarine) or on land (subaerial).

CELERITY. Wave speed.

CONTINENTAL SHELF. The zone bordering a continent and extending from the low water line to the depth (usually about 180 m) where there is a marked or rather steep descent toward a greater depth.

CONTOUR. A line on a map or chart representing points of equal elevation with respect to a datum.

CURRENT

COASTAL. One of the offshore currents flowing generally parallel to the shoreline in deeper water beyond the surf zone. These are usually related to tides, winds, the earth's rotation, or density variations.

DRIFT. A broad shallow slow-moving ocean or lake current.

EBB. The tidal current which occurs on falling tide.

FEEDER. Any of the parts of the nearshore current system that flow parallel to the shore before converging to form the neck of a rip current.

FLOOD. The tidal current during the rising tide.

LITTORAL. Any current in the littoral zone caused primarily by wave action.

LONGSHORE. The current flowing essentially parallel to the shoreline, usually generated by waves breaking at an angle to the shoreline.

RIP. A strong current flowing seaward from the shore. It usually appears as a visible band of turbid water.

CUSP. A low mound of beach material often in series separated by crescent-shaped troughs spaced more or less at regular intervals along the beach face.

CUSPATE BAR. A crescentic shaped bar uniting with a shore at each end.

CUPSATE SPIT. A spit that forms in the lee of a shoal or offshore feature (breakwater, island, rock outcrop) by waves that are refracted and/or diffracted around the offshore feature. It may eventually grow into a tombolo linking the feature to the mainland.

DECAY DISTANCE. The distance that waves travel after leaving the generating area.

DEEP WATER. Water so deep that surface waves are unaffected by the presence of the bottom. Generally water depths deeper than one half the surface wavelength are considered deep water.

DEFLATION. The removal of loose material by wind action.

DELTA. An alluvial deposit, roughly triangular or digitate in shape formed at a river mouth.

DEPTH. The vertical distance from a specified datum to the sea or lake floor.

DIFFRACTION. The phenomena by which wave energy is transmitted laterally along the wave crest.

DOWNDRIFT. The predominant direction of littoral materials alongshore.

DRIFT. (1) A short form for littoral drift. (2) The speed at which the current runs. (3) Floating material deposited on a beach. (4) A deposit of a continental ice sheet.

DUNES. Hills or mounds of windblown material, usually sand.

DURATION. The length of time that the wind blows in nearly the same direction with nearly the same intensity over the fetch.

DURATION, MINIMUM. The smallest time necessary for steady state wave conditions to develop for a given wind speed and fetch length.

EDGE WAVE. A low frequency gravity wave traveling parallel to the shore line trapped by refraction. The amplitude decreases with offshore distance across the shore and the waves may be standing or progressive.

EMBAYMENT. An indentation in the shoreline forming an open bay.

EOLIAN. Sediments which have been transported by winds.

EROSION. The removal of sediment by the action of natural forces.

ESCARPMENT. A line of cliffs or steep slopes facing in one general direction which are caused by erosion or faulting.

ESTUARY. The part of a river which is affected by tides, or the region near a river mouth in which the fresh water of the river mixes with the salt water of the sea.

FATHOM. A unit of measure used in soundings equal to 1.83 m or 6 ft.

FATHOMETER. The copyrighted trademark for an echo sounder.

FETCH. The area in which seas are generated by the wind having a fairly constant direction and speed. Sometimes used synonymously with fetch length.

FOAM LINE. The front of the wave as it advances shoreward, after it is broken.

FOREDUNE. The front dune immediately behind the backshore.

FORERUNNER. A low, long ocean swell which commonly precedes the main swell from a distant storm.

FORESHORE. The area that is ordinarily traversed by the uprush and the backwash of the waves as the tides rise and fall.

GRAVITY WAVE. A water wave whose velocity of propagation is controlled primarily by gravity.

GROIN. A shore protection structure usually built perpendicular to the shoreline to trap littoral drift or retard erosion of the shore.

GROIN SYSTEM. A series of groins acting together to protect a section of beach. Commonly called a groin field.

GROUP VELOCITY. The velocity of a wave group; the speed at which energy propagates.

HINDCASTING. The use of historic synoptic wind charts to calculate characteristics of waves that probably occurred at some past time.

JETTY. Structure extending into a body of water which is designed to prevent shoaling of a channel by littoral materials and to direct and confine the stream or tidal flow.

KNOT. The unit of speed used in navigation equal to one nautical mile per hour (one nautical mile equals 6,076 ft or 1,852 m).

LEE. Sheltered or turned away from the wind or waves.

LEEWARD. The direction toward which the wind is blowing; the direction toward which the waves are traveling.

LITTORAL. Of or pertaining to a shore, especially the sea.

DEPOSITS. Deposits of littoral drifts.

DRIFT. The sedimentary material moved in the littoral zone under the influence of waves and currents.

TRANSPORT. The movement of littoral drift in the littoral zone by waves and currents. Includes movement parallel (longshore transport) and perpendicular (onshore-offshore transport).

TRANSPORT RATE. Rate of transport of sedimentary material parallel or perpendicular to the shore in the littoral zone.

ZONE. In beach terminology, an indefinite zone extending seaward from the shoreline to just beyond the breaker zone.

LOAD. The quantity of sediment transported by a current, including both the suspended load and bed load.

LONGSHORE. Parallel to the shoreline.

LONGSHORE CURRENT. See current, longshore.

LONGSHORE TRANSPORT RATE. The rate of transport of sedimentary material parallel to the shoreline.

MEDIAN DIAMETER. The diameter which marks the division of a grain-size sample into two equal parts by weight.

MONOCHROMATIC WAVES. A series of waves in which each wave has the same characteristics (height and period).

NAUTICAL MILE. The length of a minute of arc on the equator of the earth. (1 mi = 1,852 m = 6,076 ft)

NEARSHORE. The indefinite zone extending seaward from the shoreline well beyond the breaker zone.

NOURISHMENT. The process of replenishing a beach. It may be brought about by natural longshore transport or artificially by the deposition of materials.

OFFSHORE. The zone extending from the breaker line to the seaward edge of the continental shelf.

PERCHED BEACH. A beach or buildup of sediment retained above an otherwise normal profile level by a submerged dike.

PROGRESSIVE WAVE. An oscillatory wave in which the wave form propagates at the wave celerity.

PROTOTYPE. In laboratory usage, the full-scale structure concept or phenomenon used as a basis for constructing a scale model or copy.

REFLECTED WAVE. That part of an incident wave which is returned seaward when the wave impinges on a steep beach, barrier, or the reflecting surface.

REFRACTION. A wave transformation in which the direction and height are modified due to the change in wave phase speed as the water depth changes.

REVETMENT. A facing of stone or concrete built to protect a scarp, embankment, or shore structure against erosion by wave action or currents.

RIPRAP. A protective barrier or facing of randomly placed quarrystone to prevent erosion and scour of an embankment or bluff.

RUBBLE-MOUND STRUCTURE. A mound of randomly placed stones or concrete armor units placed to provide stability against waves.

RUNUP. A rush of water up the face of a structure or beach.

SCOUR. Removal of underwater material by waves or currents.

SEA STATE. Description of the sea surface with regard to the intensity of wave action.

SEAWALL. A structure separating land and water areas, primarily designed to prevent erosion and other damage due to wave action.

SIGNIFICANT WAVE HEIGHT. The average height of the highest one-third waves in a wave group.

SIGNIFICANT WAVE PERIOD. Generally taken as the period of the one-third highest waves in a wave group.

SPIT. A small point of land or a narrow shoal projecting into a body of water from the shore.

STILL-WATER LEVEL (SWL). The elevation of the free surface if all wave action were absent.

STORM SURGE. A rise above the normal water level on the open coast due to the wind stress and low barometric pressure.

SURF. The wave activity in the area between the shoreline and the outermost limit of the breakers.

SURF ZONE. The area between the outermost breaker and the limit of wave uprush.

SUSPENDED LOAD. The portion of the total sediment load which is moving primarily in suspension in the fluid.

SWASH. The rush of water onto the beach face following the breaking of the wave.

SWELL. Wind-generated waves that have traveled out of their generating area and characteristically exhibit a more regular and longer period.

SYNOPTIC CHART. A chart showing a distribution of meteorological conditions over a given area at a given time. Popularly called a weather map.

TIDE

DIURNAL. A tide with one high water and one low water in a tidal day.

EBB. The period of tide between high water and the succeeding low water, a falling tide.

HIGHER HIGH WATER (HHW). The higher of the two high waters of any tidal day.

HIGHER LOW WATER (HLW). The higher of two low waters of any tidal day.

HIGH-WATER LINE (HWL). The intersection of the plane of mean high water with the shore. The shoreline delineated on nautical charts from NOAA is an approximation of the high-water line.

LOW TIDE. The minimum elevation reached by each falling tide.

LOW-WATER LINE. The intersection of the low tide datum plane with the shore.

LOWER HIGH WATER (LHW). The lower of the two high waters of any tidal day.

LOWER LOW WATER (LLW). The lower of the two low waters of any tidal day.

MEAN HIGH WATER (MHW). The average height of the high waters over a 19-year period.

MEAN HIGHER HIGH WATER (MHHW). The average height of the higher high waters over a 19-year period. For shorter periods of observation, corrections are applied to eliminate known variations and reduce the results of the equivalent of a 19-year value.

MEAN LOW WATER (MLW). The average height of the low waters over a 19-year period.

MEAN LOWER LOW WATER (MLLW). The average height of the lower low waters over a 19-year period.

MEAN SEA LEVEL. The average height of the surface of the sea for all stages of the tide over a 19-year period. Usually determined from hourly heights readings. Not necessarily equal to the equal tide level.

MIXED TIDES. A type of tide in which the presence of a diurnal tide is conspicuous by a large inequality in either the high or low water heights with two high waters and two low waters usually occurring each day.

NEAP TIDE. A tide occurring near the time of quaditure of the moon with the sun.

TIDAL PERIOD. The interval of time between two consecutive like phases of the tide.

TIDAL RANGE. The difference in height between consecutive high and low tides.

TIDAL INLET. A natural inlet maintained by tidal flow.

TOMBOLO. A bar or spit that connects or ties an island or offshore structure to the mainland or an other island.

TROUGH. The lowest part of the waveform between successive crests.

UPDRIFT. The direction opposite to that of the predominant movement of littoral materials.

UPRUSH. The rush of water up onto the beachface following the breaking of a wave.

WAVE DECAY. The reduction of wave height and the increase in wave period after they leave the generating area and pass through a calm or region of lighter winds.

WAVELENGTH. The horizontal distance between similar points on two successive waves.

WAVE SETUP. Superelevation of the water surface over normal surge elevation due to the onshore gradient of wave momentum.